White Paper

MEETING THE NEEDS FOR INPATIENT MENTAL HEALTH SERVICES: A FRAMEWORK FOR PLANNING

Prepared for the

Task Force on the Plan to Guide the Future Mental Health Service Continuum

For Review and Discussion at the February 26, 2008 Task Force Meeting

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I. INTRODUCTION

A. Joint Chairmen's Direction

The 2007 Joint Chairmen's Report[1] (JCR) directed the Maryland Health Care Commission (MHCC or Commission) to work with the Department of Health and Mental Hygiene and Maryland's Mental Health Transformation State Incentive Grant (MHT-SIG) to develop a plan to guide the future mental health service continuum needed in Maryland. The report recommended that the Maryland Health Care Commission develop projections of future bed need for acute inpatient psychiatric services (in State-run psychiatric, private psychiatric and acute general hospitals) and community-based services and programs (private and publicly funded) needed to prevent or divert patients from requiring inpatient mental health services, including services provided in hospital emergency departments. To guide the development of the plan, the JCR identified key stakeholder organizations to be included on a Task Force to provide assistance to the Commission in the development of the plan.

B. Mental Health Transformation

In 2003, the President's New Freedom Commission on Mental Health issued its final report, *Achieving the Promise: Transforming Mental Health Care in America*[2] and articulated six (6) goals. According to the New Freedom Commission, in a transformed mental health system:

- Americans understand that mental health is essential to overall health;
- Mental health care is consumer and family driven;
- Disparities in mental health services are eliminated;
- Early mental health screening, assessment and referral to services are common practice;
- Excellent mental health care is delivered and research is accelerated; and
- Technology is used to access mental health care and information

As part of its plan to encourage implementation of the New Freedom Commission's goals, the Substance Abuse and Mental Health Services Administration (SAMHSA) has awarded Mental Health Transformation State Incentive Grants (MHT-SIG) to nine (9) states, including Maryland. In 2006, MHT-SIG conducted an initial needs assessment that focused on the qualitative aspects of transforming the public mental health system. The data analysis produced through this MHCC planning project will add a quantitative profile of key factors and patterns of service utilization within the mental health system to complement the MHT-SIG's qualitative evaluation completed in August 2006 in response to a year one grant requirement[3]. This initial review included a

[1] Chairmen of the Senate Budget and Taxation Committee and House Committee on Appropriations, *Report on the State Operating Budget (HB50) and the State Capital Budget (HB51) and Related Recommendations,* Joint Chairmen's Report, Annapolis, Maryland, 2007 Session, p. 97-98.

[2] The President's New Freedom Commission on Mental Health: *Achieving the Promise: Transforming Mental Health Care in America,* June, 2003.

[3] Mental Health Transformation State Incentive Grant, Inventory of Resources/Needs Assessment Report, August 2006.

comprehensive systemic review of Maryland's mental health service delivery system accomplished through a variety of information gathering mechanisms, including a series of interviews with key administrators in State agencies; a number of group interviews and focus groups with adult consumers, youth consumers, families, providers, and other stakeholders; a series of public forums and hearings; and a review of existing written materials. The latter included such source documents as Maryland's Federal Block Grant application, the Governor's Office for Children's Three Year Plan, the Maryland State Disability Plan, and other comprehensive plans from a variety of State agencies. To further refine the report and assure its accuracy, a number of respondents were subsequently contacted to clarify some of the information collected.

C. Plan to Guide the Future Mental Health Service Continuum

The *Plan to Guide the Future Mental Health Service Continuum* is intended to examine the strengths and weaknesses of the existing Maryland system for treating mental illness and disorder. It will address a number of key questions, including:

- What are the service components of the crisis emergency system (including acute inpatient treatment)? How will the components differ across urban, suburban and rural areas?
- Which crisis response services should be generally available and which should be targeted to specific and/or enrolled clients?
- Who is using hospital emergency department services for mental health care and who is expected to access crisis response services? What are the diagnoses of these patients (mental disorders, substance abuse, developmental disabilities, co-occurring conditions)? What is their insurance status?
- Where are the services needed? What service components should be available in urban, suburban and rural areas?
- What will the service components cost?
- Who will purchase the services?
- What financial base is available to support service development and use? Will existing dollars be diverted to these services or will the services only be created through new funding?
- How will the plan be implemented?

The plan may be used to guide evaluations of need for projects seeking Certificate of Need (CON) approval, to set budgetary priorities, and to guide systems development. The plan should be developed and structured so that those persons and agencies responsible for mental health service policy development, facilities regulation, and service funding recognize its practical value in their work. To ensure that the plan has lasting value, it must be linked to resource allocation, either through regulatory processes such as CON, or as a template used in driving public appropriations and spending decisions.

D. Purpose of White Paper

This White Paper is the first in a series that will support the development of the *Plan to Guide the Future Mental Health Service Continuum.* The White Paper: (1) identifies factors that should be considered in future capacity planning, including planning principles, geographic regions within Maryland, appropriate age cohorts and clinical subpopulations, and definitions of the service categories for which capacity projections will be developed; and (2) outlines options with respect to the key framing decisions for capacity planning for discussion by the Task Force. It also reviews the relevant research and planning literature around inpatient bed need projections and

crisis system development. Articulating the challenges of public processes, the White Paper additionally discusses the complexities and limitations of mental health planning.

II. BACKGROUND

A. U.S. and Maryland: Emergency Department and Inpatient Trends for Psychiatric Patients

Nationally, the number of emergency department visits increased by 9 percent between 2000 and 2004, compared to 18 percent in Maryland.[4] Increases in emergency room utilization and trends in psychiatric bed capacity, have led a number of states, including Maryland, to examine the adequacy of inpatient beds for psychiatric patients. In addition to the number of emergency room visits increasing in Maryland, the rate of use per 1,000 population has increased since 2000, both numerically and relative to the national average. In 2000, Maryland's rate of emergency department visits was 333 per 1,000 population, which was lower than the U.S. average of 374 per 1,000 lives.[5] In 2004, Maryland's rate of emergency department visits had increased to 389 per 1,000 lives, which is above the U.S. average of 384 per 1,000 lives.[6]

In June, 2004 the President's New Freedom Commission on Mental Health issued a *Background Paper* from its Subcommittee on Acute Care.[7] The Subcommittee noted the decline in inpatient psychiatric beds per capita between 1990 and 2000; the increase in admissions per 100,000; and the resulting increase in occupancy rates and decrease in length of stay. Admissions went from eight-hundred forty (840) per 100,000 population in 1990 to just over one thousand fifty (1050) per 100,000 population in 2000. Total admissions per capita have increased dramatically over the last decade, up by twenty-seven percent (27%). Admissions to general hospital psychiatric unit and private psychiatric hospitals saw the greatest increase.

With the supply of most types of short-term inpatient beds declining, the most severe drop occurred in publicly operated services. Although one hundred-ten (110) twenty-four hour and residential treatment beds per 100,000 population were available in 1990, that number dropped to only eighty (80) per 100,000 population in 2000.[8] The Subcommittee concluded that problems with acute care were primarily a local phenomenon, and the Maryland experience reflects the trend nationwide. Although Maryland is sixth (6^{th}) in per capita funding for mental health services[9], it faces problems similar to those experienced in less well-funded states.

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[4] Maryland Health Care Commission. "Use of Maryland Hospital Emergency Departments: An Update and Recommended Strategies to Address Crowding." January 1, 2007.

[5] Ibid.

[6] Ibid.

[7] The President's New Freedom Commission on Mental Health, 2003.

[8] The President's New Freedom Commission on Mental Health, *Subcommittee on Acute Care: Background Paper.* DHHS Pub. No. SMA-04-3876. Rockville, MD: 2004.

[9] National Association of State Mental Health Program Directors Research Institute, Inc. (2006). *FY2004 Revenue and Expenditure Study Results*, Alexandria, VA.

Maryland's emergency room utilization rates also reflect national trends. A recent study found that U.S. emergency department waiting times increased thirty-six percent (36%) between 1997 and 2004, with the greatest increase occurring for those most in need of medical attention.[10] According to the study's authors, the proportion of emergency department visits that are emergent has also increased, "which suggests that compromised access to primary care is driving more Americans to emergency departments for routine medical needs".[11] The MHCC study of Emergency Departments reported similar findings: indicators of crowding such as ambulance diversion continue to increase and thirty-five percent (35%) of emergency visits were primary care-treatable.[12] At the same time, states like Maryland are experiencing physician shortages that may be having an impact on the demand for emergency department care. Although Maryland has the nation's second highest rate of licensed physicians per capita, almost forty percent do not see patients, according to a study released recently by MedChi and the Maryland Hospital Association.[13] The greatest shortages were found in rural areas and in some specialties, including primary care and emergency medicine.

Emergency department crowding has also been attributed to a lack of a broad array of outpatient psychiatric services that might forestall or serve as an alternative to inpatient care. A study conducted by HealthPartners Regions Hospitals in Minneapolis/St. Paul found that the lack of psychiatric services caused severe crowding of emergency departments and resulted in unnecessary admissions to inpatient psychiatric units.[14] In the HealthPartners system of six hundred (600) inpatient psychiatric beds, there were forty (40) to fifty (50) admissions per month from emergency departments for patients who would not have needed hospital services if there were less intensive community resources available.

As a component of the President's New Freedom Commission's work, a subcommittee considered the need for acute care as "an essential component of a system of mental health services in a community".[15],[16] Identifying one of the Subcommittee's concern as the excessive use of hospital emergency rooms[17], the report points out the twenty seven percent (27%) decline in beds per capita between 1990 and 2000, with State and county psychiatric hospital beds decreasing most sharply by forty-four percent (44%). During this period, admissions per 100,000 increased by ninety-one percent (91%) in private psychiatric hospitals but declined by twelve percent (12%) in State and county hospitals. Occupancy rates during this period rose to ninety-two percent (92%),

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[10] Wilper, A.P. et al. (2008). Wait to see an emergency department physician: U.S. trends and predictors, 1997-2004. *Health Affairs*, Volume 27, Number 1.

[11] Op cit.

[12] Maryland Health Care Commission, 2007.

[13] Baltimore Sun, *State Lacks Practicing Physicians*, M. William Salganik, Sun Reporter, January 16, 2007.

[14] Minneapolis/St. Paul Business Journal, *Lack of Psych Services Crowds ERs, Hospitals*, Lauren Wilbert, Staff Writer, March 15, 2007.

[15] Schreter, R.K. (2000). Alternative treatment programs: The psychiatric continuum of care. *Psychiatric Clinics of North America*, 23, 355-346.

[16] Subcommittee on Acute Care, 2004.

[17] Schafermeyer, R. W. & Asplin, B.R. (2003). Hospital and emergency department crowding in the United States. *Emergency Medicine*, 15, 22-27.

with private psychiatric hospitals at eighty-nine percent (89%). However, the Sub-committee's report notes that, while these data show the inpatient trend, they "provide no information on the availability of alternative services that could lessen the demand for acute inpatient care".[18] The Subcommittee report concluded with an appeal for consensus standards on the number of acute beds needed and for agreement on the array of services that constitute an ideal system of care.

B. Use of Maryland Hospital Emergency Departments: An Update and Recommended Strategies to Address Crowding

In January, 2007, the Maryland Health Care Commission (MHCC) issued a report on *The Use of Maryland Hospital Emergency Departments: An Update and Recommended Strategies to Address Crowding*. Although mental health consumers represented only three percent (3%) of emergency department (ED) patients, difficulty in finding appropriate dispositions for these patients was frequently noted as a major contributing factor in ED crowding. Twenty-nine percent (29%) of psychiatric patients presenting at the ED were admitted to inpatient care in contrast to an admission rate of eighteen percent (18%) for all ED patients; however, since approximately 40% of Maryland's acute general hospitals do not have an inpatient psychiatric unit, arranging for admission to other general hospital units, to specialty psychiatric hospitals, or to state hospital facilities is often necessary and contributes to delays. This finding led to the recommendation that MHCC consider the increase in admissions through the emergency departments as a factor in State Health Plan updates of inpatient bed need projections. The report further recommended that the Department of Health and Mental Hygiene (DHMH) develop a plan to guide the future role and capacity of state psychiatric hospitals and that MHCC develop projections of future bed need for acute inpatient services.

The Joint Chairmen's direction to the Commission to develop a plan to guide a continuum of services recognizes that the need for inpatient services is closely related to the adequacy of community services for acute intervention, for relapse prevention, and for community support. Addressing ED crowding related to the care of mental health patients could be limited to strategies for expanding effective bed capacity, thereby improving patient "throughput", by constructing more beds and/or managing use of beds more effectively. However, it can also be addressed by establishing adequate community-based services for individuals with mental illness thereby reducing the demand for inpatient hospitalization.

C. Key Elements in Developing the Mental Health Services Plan

From the Commission's January, 2007 recommendations, there are three key elements to be analyzed in developing the mental health service plan. The first is the question of the number of acute inpatient treatment beds required in Maryland; the second is the role of the State-operated facilities in filling that capacity for acute inpatient treatment; and the third is the identification of "community-based services needed to prevent or divert patients from requiring inpatient mental treatment, including services provided in hospital emergency departments"[19].

Although each of these questions can be evaluated separately they are inextricably linked. The number of acute inpatient beds required in a system must be evaluated in the context of the

[18] Subcommittee on Acute Care, 2004.

[19] Maryland Health Care Commission, *Plan to Guide the Future Mental Health Services Continuum in Maryland,* Scope of Work, August, 2007.

availability of a crisis response system. Since alternatives to acute inpatient treatment can effectively reduce demand for hospital care, community-based crisis services must be developed in tandem with inpatient capacity.[20] If a mental health or a health care system has adequate access to primary and urgent care services, the need for emergency treatment and hospitalization can be minimized.

Maryland's crisis alternatives must also be developed in the context of its all payer hospital rate setting system, which provides the mechanism for incentives and payments for emergency department, inpatient and ambulatory care within Maryland's community-based hospital system. This, in addition to the role of Medicaid, Medicare, state funded services and private insurance serves to define Maryland's mental health system as it currently exists and will need to be considered as recommendations are made moving forward.

Maryland operates acute care beds in the public sector, unlike many States in which acute inpatient treatment is the sole purview of the private hospital sector and the State limits its role to the provision of intermediate, forensic and long-term inpatient treatment. In these States, an explicit policy delegating acute inpatient treatment to the private hospital sector was established. Even in States where some acute inpatient treatment is provided in State facilities, it is typical to find the State attempting to predominately utilize the general hospital psychiatric unit setting, so that Medicaid financing is available to support the cost of care for indigent patients.

Maryland has also historically relied on freestanding, private psychiatric hospitals to provide needed inpatient services. For this reason, access to inpatient care has recently been compromised through a decision of the Center for Medicare and Medicaid Services (CMS). CMS has decided not to renew a limited waiver of the Institute for Mental Disease (IMD) acute care payment restrictions for adults. While freestanding, private psychiatric hospitals have provided limited acute care for adult Medical Assistance beneficiaries for the past ten years, this decision will result in a further restriction of publicly-purchased beds for adult acute psychiatric care in Maryland. Without the IMD waiver, Maryland's Medicaid program will not be able to reimburse freestanding psychiatric hospitals for acute inpatient treatment, although the State is continuing to purchase beds through State General Funds for persons who are uninsured. Planning for psychiatric beds is further complicated by the increasing need for forensic placements. As is the case in most other States, an increasing proportion of Maryland's State psychiatric hospital beds are being used for individuals whose admission was ordered by a Court. Some of the crowding in hospitals could be alleviated with jail diversion programs and with adequate community treatment options.

Practices in other service systems also influence the demand for acute mental health treatment. A shortage of mental health services for child welfare or juvenile justice populations can drive emergency room utilization as can higher co-pays for mental health treatment for Medicare beneficiaries. Similarly, homeless persons with mental health needs who are not connected to the mental health system may be overly-reliant on hospital emergency department care because their psychiatric needs are not being met.

Finally, in addition to public policy and resource allocation, private insurance practices and coverage affect mental health utilization, both inpatient and outpatient. Benefit design, deductibles and co-pay requirements, and network capacity can all shape private pay utilization patterns and create demands for the public mental health system.

[20] The President's New Freedom Commission on Mental Health, *Subcommittee on Acute Care: Background Paper.* DHHS Pub. No. SMA-04-3876. Rockville, MD: 2004.

D. Current Planning for Mental Health Bed Capacity in Maryland

1. Maryland Health Care Commission

Through the health planning statute, the Maryland Health Care Commission is responsible for the administration of the State Health Plan, which guides decision making under the Certificate of Need program and the formulation of key health care policies, and the administration of the Certificate of Need program, under which actions by certain health care facilities and services are subject to Commission review and approval. Through the Certificate of Need program, the Commission regulates health care facilities and individual medical services covered by CON review requirements, as well as other actions the regulated providers may propose, such as increases in bed or service capacity, capital expenditures, or expansion into new service areas.

The method of projecting future need for inpatient psychiatric services under the Plan currently in effect is regional in its focus, based on the five historic health planning areas: Western Maryland (which since 1987 has included Carroll County, by the designation of the county's government), Montgomery County, Central Maryland (Baltimore City and the Baltimore metropolitan counties, minus Carroll), Southern Maryland (including Prince George's County), and the Eastern Shore. This regional approach to bed need projection distinguishes acute inpatient psychiatry in acute general hospitals from the other inpatient acute care hospital services, for which need is evaluated on a jurisdictional basis.

2. Mental Hygiene Administration

On behalf of the Mental Hygiene Administration (MHA), the Core Service Agencies[21] (CSA) are local mental health authorities responsible for planning Public Mental Health System services at the local level. The MHA issues Planning Guidelines, and the county plan review process takes place between January and March/April. It begins with the identification of local needs and strategies and is followed by the CSAs' submission of two-year plans, with plan updates every other year. The CSA plans inform the MHA plan and budget with respect to systemic issues, policy, and program development, and also inform the MHA Plan and Annual Report. The annual State MHA Plan includes MHA's goals, objectives, and strategies for the coming year, reflecting State priorities and the input from the local CSA processes and from other stakeholders.

With respect to the children's system, the plans submitted by CSAs reflect collaboration and planning with Local Management Boards[22] (LMBs) in their jurisdictions. The LMBs, which are under the auspices and funded by the Governor's Office on Children (GOC), are required to do a needs assessment of service delivery to the children, youth, and families in their jurisdictions every three years. Although their assessments are community based and across local systems, CSAs participate with them in identifying mental health issues and needs.

[21] Core Service Agencies are local mental health authorities that are connected to each county or, in some cases, are connected to groups of counties.

[22] Local Management Boards are local children's authorities that include review of mental health services and needs.

III. PLANNING PRINCIPLES

Every planning process begins with a statement of principles that are used to guide elements in the plan and decisions about directions. For the *Plan to Guide the Future Mental Health Services Continuum,* the following general principles are proposed:

Targeting Services for Specific Populations

- **Services should be targeted to identified populations with specific service needs, including adults with serious mental illness and children/adolescents with serious emotional disturbance, as well as people with less serious clinical conditions who rely on publicly-funded mental health treatment.** Diagnosis and severity of disability are used to determine/identify serious mental illness or emotional disturbance. In particular, adults and children/adolescents with co-occurring psychiatric and addictive disorders require tailored services and integrated treatment. Special populations such as those who are homeless, involved with the child welfare system, or exiting the criminal justice system should receive special attention in system planning. Services should be customized for individual populations so that maximal outcomes are reached.

Promoting Development and Maintenance of Services Shown to be Effective

- **To the extent possible, evidence-based mental health treatment modalities, selected for their clinical effectiveness should be included in planning.**[23] However, since there are still few evidence-based practices in mental health, the service array should also use practice-based evidence to identify desired treatment options and will consider consensus-driven best or promising practices. Evidence-based practice integrates the best research evidence with clinical expertise and patient values.[24] The long-term goal is reliance on evidence-based decision making for clinical care.

Prioritization

- **Priorities should be established among resource development and resource allocation options using cost-benefit considerations to determine the comparative effectiveness of individual service modalities and cost-effectiveness analysis to analyze choices among competing options for meeting the same treatment objectives.** Both direct costs of treatment and the quantifiable costs to government (justice system, welfare and other social services, including housing) of untreated illness should be considered. Those services with reasonable direct costs and high 'other cost avoidance' quotients should be optimized.

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[23] Lehman, AF, Goldman HH, Dixon, LB, Churchill, R: *Evidenced-Based Mental Health Treatments and Services: Examples to Inform Public Policy.* (Milbank Memorial Fund: New York) 2004.

[24] Institute of Medicine, 2001. *Crossing the Quality Chasm: A New Health System for the 21st Century.* Washington, DC: National Academy Press.

Access to Services

- **Planning for mental health services should consider barriers to care and promote access to services by addressing the needs of underserved populations and racial disparities.** To assure appropriate access and effective treatment, mental health systems should understand the cultural demographics both of those in the service system and those who are in need of service but who are not engaged by the system. Efforts should also be made to understand, recognize and utilize the familiar and valued community resources of minority cultures and to integrate these resources into the community mental health system. Efforts are also needed to ensure that a culturally competent workforce is available to serve minorities and, where language is a barrier to care, that bilingual mental health professionals and/or sensitive interpreter and translation services are available.

Accountability

- **Services should be accountable, to the people served and to payers and purchasers.** Accountability should be demonstrated through providers' ability to produce results and provide evidence of positive outcomes for consumers and families. Outcomes should be framed in ways that customers and taxpayers can understand, for example using employment, not 'productivity' as a benchmark. Providers' responsiveness to consumers', families' and purchasers' opinions and experience is also an indicator of accountability

Evaluation

- **Services delivery should be performance-focused and always accompanied by the collection of timely and comprehensive performance data, with providers and practitioners conducting continual assessment of the client's experience, his/her perceptions of the quality of care and the results being achieved.** Outcome management systems should identify opportunities for process improvement and profile performance in key clinical areas.

Adopting a set of planning principles will assist decision makers in setting priorities and selecting options for system development and financing.

IV. PLAN DESIGN AND ELEMENTS

A. Complexity and Limitations of Mental Health Planning

Mental illness is the second leading cause of disability and premature mortality in the United States.[25] Yet, nearly half of all Americans with a mental illness do not seek treatment. This may be due to a failure to recognize the symptoms, the societal stigma associated with mental illness, financial barriers, or a lack of awareness as to how and where to find help. Since not all who meet the diagnostic criteria for a mental health disorder experience significant impairment, at issue is how many residents of a state will actually need treatment services, and of what type and intensity. Adding to this issue is the fact that many people with mental illness actually receive mental health care from providers outside the traditional publicly financed mental health

[25] World Health Organization. (2001). *The World Health Report 2001 - Mental Health: New Understanding, New Hope*. Geneva: World Health Organization.

system, such as primary care providers, health centers, schools, child welfare, juvenile services, courts, local jails, homeless systems or nursing homes. Planning for mental health services must therefore balance these issues of frequency of occurrence, variability in severity, and the role that other systems may have in providing care.

One of the characteristics of mental health services that makes quantitative need projections challenging is the high degree of interchangeability of certain services in the mental health continuum. Acute care is such a service. If there are no community-based crisis and emergency services, demand for acute inpatient care will be quite high; with the provision of targeted outpatient-delivered crisis intervention, demand for acute inpatient treatment may be reduced. Possibly more than medical/surgical services, mental health services interact with each other and with social services and supports.[26] Many public systems have created a continuum of community-based crisis and emergency services that serve to decrease inpatient utilization. Development of 'warm lines', 24-hour crisis lines, urgent care clinics, mobile crisis teams, respite options, crisis hostels, and crisis residential treatment centers have all assisted various public behavioral health systems to reduce their reliance on inpatient treatment. Additionally developing specific services and therapeutic interventions for individuals who are frequently admitted to inpatient facilities (e.g., persons with substance use disorders, persons who are homeless) has also contributed to reductions in hospital care.

Because acute inpatient alternatives can reduce the demand for more expensive and invasive hospital-based services, public mental health systems must carefully evaluate their community-based crisis continuum in conjunction with planning for inpatient acute capacity. Are community-based alternatives available and delivered effectively? Are they targeted to the persons who are presenting at emergency departments? Is there adequate affordable housing so that economic or domiciliary crises don't precipitate admissions?

While adequate funding is an essential element in a well-resourced system, other elements are also important. In order to maximize return on investment, the services purchased must be efficiently operated. Further, efficiently operated services are not sufficient but must also be delivered in effective way so that consumers and their families benefit from treatment and are able to move toward recovery and resilience. Ideally, a well-run system would ensure that services that are delivered are both effective and efficient. There should be methods to assess each and these should be part of the metrics that are tied to recovery and process outcomes. Funding should follow these metrics.

Even in systems with adequate funding, there is still much under-treatment and most consumers do not receive evidence-based care.[27] For example, in 2002 only fifty-six percent (56%) of schizophrenia medications were prescribed in appropriate dose and duration, up from forty-nine percent (49%) in 1997; slightly less than half of the patients served received sub-optimal medication-assisted treatment.[28] A purchaser could be directing significant spending to medication-assisted treatment but receiving little return on investment if ineffective therapeutic interventions are being employed.

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[26] Elpers, J. R and Crowell, A. (1982) How many beds: An overview of resource planning, *Psychiatric Services*, Volume 33, pp. 755-761.

[27] Frank, R., *Mental Health Care: Gaps and Gains*, Presentation to the National Association of State Mental Health Program Directors, July, 2007.

[28] Op cit.

The public mental health planning process itself presents significant challenges to any quantitatively-driven forecasting. While State Mental Health Authorities (SMHA) are required to develop comprehensive plans on an annual basis, most of these plans focus on incremental changes to the service system and identify desired service enhancements; they don't "rightsize" the system. Very often, budget initiatives, not systems development, determine a public system's direction and priorities. Rarely are systems 'zero-based' or is funding re-directed from ineffective to more effective services. Policy decisions often serve a "satisficing" rather than optimizing purpose[29], given the need for SMHAs to continually react to environmental changes, stakeholder feedback, and political influences.

The payer mix for mental health spending must also be considered in any planning process. In 1997, the last year comparable data were available, fifty-seven percent (57%) of mental health expenditures were derived from public sources, compared with forty-six percent (46%) of health care spending.[30] Within the public sector, Medicaid accounted for twenty-seven percent (27%) of expenditures for mental health treatment in 2001.[31] When combined with Medicare's contribution of seven percent (7%), these two sources contributed more than State general funds, which stood at twenty-three percent (23%). Clearly, the Single State Authority (Medicaid) must be a strong partner in mental health system planning. On the other hand, Medicaid's ability to plan is actually limited to the decision whether to include a service in the State Plan. Once that decision is made, any willing and qualified provider can apply to offer that service, without regard to specific, regional need or demand for the service. State and local Mental Health Authorities have more discretion in network development and can selectively fund services and, therefore, providers, in targeted geographic areas based on needs.

B. Determining Population Needs

1. Target Populations

The first issue for mental health planners is to define the target population who will access the service system. This will help determine the goals of the system, the services necessary to meet those goals and the accompanying resources needed to provide such services. The characteristics and needs of the population will inform efforts to develop services and identify the resources to support these services. For instance, a plan may include the general population that would benefit from prevention and early intervention activities. This may include such activities as: educational and information campaigns to reduce stigma, real-time information on resources for individuals and families who may have early symptoms, or maintaining and implementing a mental health component of a disaster response plan. In addition, crisis response systems may be defined for the general population who experience mild to acute crisis but may not necessarily be receiving or needing ongoing mental health treatment and supports.

While most state mental health authorities have jurisdiction over mental health services for all residents of the state, limited public mental health resources often require these systems to be selective in who benefits from publicly financed mental health services. This has led many states

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[29] Lindbloom, C., (1995). "The Science of Muddling Through." *Administrative Science Review*. 19: 79-99.

[30] Coffey, R.M., Mark, T., King, E. Harwood, H., McKusick, D., Genuardi, J. et al. (2000). *National Estimates of Expenditures for Mental Health and Substance Abuse Treatment,* 1997 (SAMHSA Publication SMA-00-3499). Rockville, MD: Substance Abuse and Mental Health Services Administration.

[31] Frank, 2007.

to either limit services to those with the most severe or disabling disorders, to those whose income or level of disability make them eligible for public support under the Medicaid program, or to those individuals referred by the Court system. Although a mandated population, this latter group may or may not meet other criteria under the State's target population definition. While these strategies are often necessary, they further test the ability of mental health planners to develop comprehensive systems of care.

In Maryland, the State Mental Health Authority is responsible for running the Medicaid mental health program and also for covering persons without insurance whose incomes fall below 116% of the federal poverty level, in addition to high risk groups. The criteria for the other groups include whether a person is homeless, newly released from prison, jail, or another correctional facility, have been discharged within three months from a psychiatric hospital, are receiving services as required by a court-ordered conditional release, or have social security disability insurance as a result of a mental health disorder.[32]

The target population of the plan may also include the clients of other agencies or institutions that rely on the mental health system to supplement their roles and responsibilities. These may include individuals referred by schools, child protective services, and other health and human services agencies (e.g., alcohol and addiction services, mental retardation). These individuals may request or require education and information that will also help to reduce stigma and identify the best strategies for accessing publicly funded mental health services in their area.

The target population of a mental health plan will always include individuals who have significant mental health needs and their families. These include children with serious emotional and behavioral disorders and their families as well as adults with serious mental illness. It may also include families or caregivers of these adults. These individuals have complex needs that require a system of care that includes a range of acute, outpatient and rehabilitative services. The implementation and coordination of these services require careful analysis and planning.

Many states have historically limited services only or primarily to those with serious mental illnesses (SMI) or serious emotional disturbance (SED) as defined by diagnosis, disability, and level of functioning. Once defined as meeting the particular criteria, the consumer usually has access to an extensive array of services. A conflicting problem for states that have limited their services to those with serious mental illness is the concept of triage – providing for those who present in crisis and who could benefit from services. These individuals do not always meet the SMI/SED criteria developed by the state, yet need crisis and triage to address their mental health needs. To respond to this conflict, many states have included crisis and emergency services as supported programs open to all who may be in need. This concept seeks to address the immediacy of the crisis and assess whether short or long-term mental health services are needed.

A challenge for the public mental health system is to define what it seeks to accomplish. Without establishing specific goals for the service system, the public mental health system runs the risk of trying to do everything and accomplishing, at best, a little of each. Public systems have faced planning challenges for a number of reasons, including limited funding and the absence of a fully developed population-based public health model for providing mental health services that flow from primary prevention, early intervention through deep end services. Secondly, responsibility for purchasing or providing mental health services is spread through various components of state and local government—child welfare, corrections, schools, etc. In addition, public and private

[32] Task Force to Study Access to Mental Health Services Final Report. December 2004.

coverage of mental health services is typically not coordinated, causing intended or unintended cost shifting among payers.

The recent report of the President's New Freedom Commission on Mental Health[33] strongly urged the adoption of the idea of recovery as possible for all and as the guiding goal for public mental health services. The New Freedom Commission defined recovery as "the process in which people are able to live, work, learn and participate fully in their communities".[34] Factors contributing to recovery include symptom reduction, independent living, and improved vocational functioning and social relationships. The consumer movement also sees the experience of recovery bringing with it valued roles, self-esteem and empowerment. Recovery as a guiding goal for state mental health systems can also help to integrate mental health services with the concepts of self-help, protection of rights and rehabilitation and treatment.[35] For children and their families, 'resilience' is the goal that has many of the same attributes of recovery for adults; it's "the personal and community qualities that enable us to rebound from adversity, trauma, tragedy, threats, or other stresses—and to go on with life with a sense of mastery, competence and hope".[36]

2. Sub-Populations Needs

To be effective, most mental health services must be tailored to specific groups of clients, beginning first with age cohorts. While somatic medicine orients treatment to pediatric, adult and geriatric populations, mental health services are typically targeted to children, adolescents, young adults, adults and older adult populations. In providing outpatient treatment, for example, best practice would have therapists who specialize in children, adolescents, transition aged youth, adults or geriatric practice. Clinicians who treat children should understand developmental psychology and family dynamics. Practitioners who serve older adults should understand the effects of the aging process on both physical and mental health.

As funds and services for individuals with substance abuse have decreased, individuals with substance abuse problems have increasingly used the emergency department for their services. The use of contingency psychiatric symptoms to access a residential placement has added to competition for mental health resources. An additional problem for emergency departments is dealing with individuals with developmental disabilities. These individuals generally have insurance but do not fit well with the case rates and experience placement problems.

Similarly, major groups of clinical conditions require special attention. Clinical guidelines for treating schizophrenia are not the same as for major depressive disorder. Practitioners need to be knowledgeable about the diagnoses they treat. Given the prevalence of co-occurring psychiatric and addictive disorders, all mental health practitioners must be capable of assessing for either disorder and providing some initial level of treatment for both.

Inpatient treatment needs to be tailored for children/adolescents and adults, and preferably for older adults as well. While initial emergency evaluation, crisis intervention and triage may not be

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[33] The President's New Freedom Commission on Mental Health, 2003.

[34] Op cit

[35] Institute of Medicine, 2001. *Improving the Quality of Health Care for Mental and Substance-Use Conditions.* Washington, D.C.: National Academy Press.

[36] Op cit

age-specific, subsequent clinical treatment should be. For acute or emergency treatment, rapid assessment and crisis intervention are the specialties, not necessarily specific clinical conditions.

Table 1 below outlines options for defining the age cohorts of the target population. Under the Commission's State Health Plan, four age cohorts are used: children (0-12 years); adolescents (13-17 years); adults (18-64 years); and geriatric (65 years and over).

Table 1
Comparison of Alternate Options for Defining Target Population Age Groups

Option	Target Population Age Groups
Option 1	Children and Adolescents (Under 18 Years) Adults (18 Years and Over)
Option 2	Children (0-12 Years) Adolescents (13-17 Years) Adults (18-64 Years) Geriatric (65 Years and Over)
Option 3	Children (0-15 Years) Transitional Adolescent/Young Adults (16-24 Years) Adults (25-64 Years) Geriatric (65 Years and Over)

3. Geographic Dimensions of Need

In planning for mental health service capacity, a state needs to establish some type of 'planning areas' that are used to predict utilization volume and to distribute resources. Defining geographic regions by examining referral patterns for hospital services reflecting an analysis of where patients live and where they seek care is one approach to establishing planning areas. This approach has been used by Wennberg to analyze patterns to utilization for health care services.[37]

In most states, planning areas for mental health services are larger than counties (with the exception of large, urban counties) and could be established based on an expected critical volume of persons who would rely on public mental health services. For example, some states have defined persons who are at two hundred percent (200%) of the federal poverty level as either the eligible or the target population for publicly funded services. These states then create groupings of counties whose combination resulted in a certain threshold population base of persons in poverty. Counties would be grouped not just on population, but also based on transportation systems, natural boundaries (e.g. bodies of water, mountains) or commerce patterns. Some services, like outpatient treatment or community support, would be available in every 'planning area'; others would only be available to groups of planning areas ('regions'). Less intensive and expensive services would be broadly available, while more intensive treatment options might be available on a regional basis. The need for some intensive services is specifically

[37] Wennberg, JE. The Dartmouth Atlas of Health Care in the United States.

linked to high resource utilization and their distribution should be driven by this. Assertive Community Treatment (ACT), for example, requires a baseline high volume of inpatient utilization in the targeted client population to justify the cost of this service; given the team staffing model, ACT also requires a minimum caseload between fifty (50) and sixty (60) clients. It would not be economically feasible to support an independent team in every county.

Organizational and delivery models will also need to be tailored to types of geographic areas, most specifically urban, rural and frontier. Some intensive treatment options (inpatient, for example) will never be as accessible in rural or frontier areas, since their expense and overhead requires a substantial population base for economic viability. Creative alternatives to inpatient care must be developed in order to accommodate the lack of inpatient capacity. Similarly, the model for a crisis response system will not be identical for a large urban area and a rural region.

Potential options for defining geographic regions for planning acute inpatient mental health services are outlined in Table 2. The Commission's State Health Plan establishes five planning regions: Western Maryland; Montgomery County; Southern Maryland; Metropolitan Baltimore; and, Eastern Shore. The plan also identifies sub-regions for Western Maryland, Southern Maryland, Metropolitan Baltimore, and Eastern Shore. An alternative option for establishing planning regions would be to use the Census Bureau guidelines for the metropolitan Washington and Baltimore areas. The general concept of a metropolitan area is that of a core area containing a large population nucleus, together with adjacent communities having a high degree of economic and social integration with the core area. For the Metropolitan Washington area, this would add Frederick County, which under the Commission's State Health Plan is now part of Western Maryland. For the Metropolitan Baltimore area, this would add Queen Anne's county, which is included on the Eastern Shore under the Commission's State Health Plan. This general approach, outlined in Option 2, would define four planning regions. Another approach would be to blend the Census Bureau guidelines with the some of the sub-regions identified in the Commission's State Health Plan. This approach is outlined in Option 3 and would define six planning regions.

C. Resource Availability and Accessibility

1. Defining the Services

For many years, a key tension in mental health planning has been the allocation of resources between inpatient and outpatient care. The introduction of the Balanced Service System in the late 1970s by the Joint Commission brought recognition that a mature and effective mental health system required a broad array of services, including inpatient and outpatient community based services. The balanced service system introduced the concept of fifteen (15) types of programs based on the type of service provided, type of environment (natural, protective, supportive), and the type of setting (residential, non-residential) where services were to be provided. Although the balanced service system concept languished, the concept that people with mental illness need a variety of services in different kinds of setting continues today.

Services for people with mental illness are interconnected. Consumers of mental health services use many different services and many at the same time. Planning needs to consider that providing a consumer with an assertive community treatment or outpatient medication management may not mitigate the need for a supported housing placement or a psychosocial rehab program. The interconnectedness of services may also require case management or other linking functions to help ensure that care is coordinated across such services. As the course of the illness and the corresponding disability that comes from mental illness also changes, one's service needs may also change, thereby requiring some flexibility in service design and capacity.

Table 2
Comparison of Alternate Options for Defining Geographic Regions for Planning Acute Mental Health Services

	Western Maryland	Metropolitan Washington	Metropolitan Baltimore	Eastern Shore
Option 1 MHCC State Health Plan (5 regions) *(Note 1)*	Allegany Co. Frederick Co. Garrett Co. Washington Co. *[Population: 498,050]*	Montgomery Co. *[Population: 987,000]* Calvert Co. Charles Co. Prince George's Co. St. Mary's Co. *[Population: 1,234,300]*	Anne Arundel Co. Baltimore City Baltimore Co. Carroll Co. Harford Co. Howard Co. *[Population: 2,721,950]*	Caroline Co. Cecil Co. Dorchester Co. Kent Co. Queen Anne's Co. Somerset Co. Talbot Co. Wicomico Co. Worcester Co. *[Population: 456,300]*
Option 2 Census Bureau Metropolitan Statistical Areas (4 regions) *(Note 2)*	Allegany Co. Garrett Co. Washington Co. *[Population: 254,850]*	Calvert Co. Charles Co. Frederick Co. Prince George's Co. Montgomery Co. St. Mary's Co. *[Population: 2,464,500]*	Anne Arundel Co. Baltimore City Baltimore Co. Carroll Co. Harford Co. Howard Co. Queen Anne's Co. *[Population: 2,771,150]*	Caroline Co. Cecil Co. Dorchester Co. Kent Co. Somerset Co. Talbot Co. Wicomico Co. Worcester Co. *[Population: 407,000]*
Option 3 Blended Census Bureau and SHP Sub-regions (6 regions)	Allegany Co. Garrett Co. Washington Co. *[Population: 254,850]*	Frederick Co. Prince George's Co. Montgomery Co. *[Population: 2,113,950]* Calvert Co. Charles Co. St. Mary's Co. *[Population: 350,550]*	Anne Arundel Co. Baltimore City Baltimore Co. Carroll Co. Harford Co. Howard Co. *[Population: 2,721,950]*	Caroline Co. Cecil Co. Kent Co. Queen Anne's Co. Talbot Co. *[Population: 249,200]* Dorchester Co. Somerset Co. Wicomico Co. Worcester Co. *[Population: 195,400]*

Note (1) Under COMAR 10.24.07 subregions are designated as follows: Western Maryland (Allegany/Garrett Counties and Frederick/Washington Counties; Southern Maryland (Calvert, Charles, and St. Mary's Counties); Central Maryland (Baltimore City and Anne Arundel, Carroll, Harford, and Howard Counties); and. Eastern Shore (Upper Eastern Shore including Caroline, Cecil, Kent, Queen Anne's, and Talbot Counties; and Lower Eastern Shore including Dorchester, Wicomico, Somerset, and Worcester Counties).

Note (2) The Census Bureau's designated Washington-Baltimore Consolidated Metropolitan Statistical Area (CMSA) is composed of the Washington, D.C. Primary Metropolitan Statistical Area, the Baltimore, Md. Primary Metropolitan Statistical Area, and the Hagerstown, Md. Primary Metropolitan Statistical Area. The table includes the Maryland jurisdictions in the Washington, D.C. and Baltimore Primary Metropolitan Statistical Areas. Although included in the Metropolitan Washington area on this table, St. Mary's County is not part of the Washington, D.C. Primary Metropolitan Statistical Area. (Source: Population Division, U.S. Census Bureau, Metropolitan Statistical Areas and Components, December 2005. Internet release date: January 19, 2006.)

Population data reflect 2010 projections from the Maryland Department of Planning, Planning Data Services, October 2007.

Mental health systems place high value on services that are person centered and developed using appropriate assessment criteria and methods. When consumers are being assessed, a "person orientation" will help the recovery process by identifying those areas where client's strengths can be used to promote access to existing resources that may be outside of the public mental health system. Such resources might include recreational programs available at the YMCA or through local recreation departments, or educational and vocational training that might be available through community colleges or adult education programs.

Additionally, client-driven services foster opportunities for self-determination and choice for consumers of services. The recovery process can be facilitated further by providing the consumer the opportunity to determine his or her own goals for care, to choose the methods to achieve those goals and to select the provider of the service. Consumers may also need to be educated about treatment options and the kinds of providers available to them so that they can make informed decisions about their care.

Consumer and family involvement in the planning for mental health services is well understood as a prerequisite for system planning. Meaningful opportunities for consumer and family participation in the design and delivery of mental health services are essential to ensure the system's responsiveness. Congress has recognized the importance of such involvement through a mandate that state mental health planning councils include family and consumer participation.

There is clear recognition that community-based non-institutional services can meet the needs of most persons with serious mental illnesses.[38] At a minimum, the treatment services needed include:

- Emergency and Crisis Stabilization Services
- Inpatient Psychiatric Services
- Outpatient Care, including cognitive behavior interventions and medication management
- Integrated treatment for those with co-occurring psychiatric and substance abuse disorders
- Integration with somatic health services
- Integration with other service delivery systems
- Prevention and early intervention services

[38] Satcher, D. (1999). *Mental Health: A Report of the Surgeon General*, U.S. Department of Health and Human Services, Center for Mental Health Services and National Institute of Mental Health, Rockville, MD: U.S. Government Printing Office.

Table 3
Comparison of Alternate Options for Defining Services for Projecting Need

Option	Services
Option 1	Inpatient Beds Only
Option 2	Inpatient Beds Community-Based Emergency and Crisis Stabilization Services Diversion Services
Option 3	Inpatient Beds Community-Based Emergency and Crisis Stabilization Services Diversion Services Services Needed by Persons Who Frequently Use, or Would Likely Frequently Need Inpatient Psychiatric Care

In addition to these treatment services, services to persons with serious mental illness typically include appropriate care management practices such as assertive community treatment and case management.

Support and rehabilitative services for those with a serious mental illness typically includes an array of supportive and independent housing, supported education and employment services, and psychosocial rehabilitation services, such as clubhouses and drop-in centers. For children, intensive home-based intervention, wraparound services and family support are considered to be critical system components. Family psycho-education and peer support are increasingly seen as essential. Recently, many public purchasers have begun adding recovery/resilience support services to their system's array.

Because the focus of the Task Force is on diversion of persons with mental illness from inpatient psychiatric care, the Task Force will need to focus on services likely to reduce the need for acute, inpatient psychiatric care. However, some persons with serious mental illness are able to reduce their need for inpatient care with the receipt of services that would not generally be regarded as directly reducing the need for inpatient psychiatric care. Therefore, identifying the persons with serious mental illness who frequently use inpatient psychiatric care, and examining their service needs, may be just as valuable as defining the services likely to directly reduce the need for inpatient psychiatric care.

2. Barriers To Care

The planning of mental health services should also consider barriers to care. Among these are cultural diversity of those to be served, geographic considerations, and workforce considerations.

a. Cultural Diversity

The US Surgeon General's Report on Mental Health[39] noted that America's mental health system was ill-equipped to meet the needs of racial and ethnic minority populations and that, as a result, these individuals are generally underserved by the mental health service system. To assure appropriate access and effective treatment, mental health systems must understand the cultural demographics both of those in the service system and those who are in need of service but who are not engaged by the system. Efforts should also be made to understand, recognize and utilize the familiar and valued community resources of certain minority cultures and to integrate these resources into the community mental health system. Efforts are also needed to ensure that a culturally competent workforce is available to serve minorities and, where language is a barrier to care, that bilingual mental health professionals and/or sensitive interpreter and translation services are available.

b. Rural Services

Often, the design of the services system is based on population centers where there are wider choices for care and where access to care is made easier through a critical mass of consumers and, often, the availability of public transportation. In rural settings, primary medical practitioners and social service agencies are often the mental health providers of choice. The broad array of mental health services found in urban areas is not typically available in rural settings. If such services are required, consumers must travel long distances, and because people with serious mental illness are often poor and don't have adequate transportation, services cannot be accessed. When a consumer is unable to access appropriate mental health services, they must rely on friends, family and other natural supports. In those rural locations where care is available, choices are often limited.

c. Workforce

The availability and array of mental health services can also be constrained by limitations in the mental health workforce. The lack of adult or child psychiatry in certain areas often requires changes in the types of services offered in the community. The unavailability of appropriate community mental health services for children in most areas of the country often results in children being hospitalized for needed care. Similarly, the lack of specialists trained to deal with co-occurring mental health and substance abuse disorders may result in ineffective treatments or no treatment at all. The expansion of evidence-based services requires the supply of well-trained mental health professionals able to deliver such services.

3. Access To The Mental Health System

Planning for a community mental health system must also consider how those in need access care. The mental health system may adequately serve those already "in the system", but those outside the system or those in crisis are often not adequately served. Most community mental

[39] United States Public Health Service Office of the Surgeon General (2001). *Mental Health: Culture, Race, and Ethnicity: A Supplement to Mental Health: A Report of the Surgeon General*. Rockville, MD: Department of Health and Human Services, U.S. Public Health Service.

health services are fragmented, making it difficult to know where to go for help. Once the front door of the system is found, waiting lists or a backlog of appointments often prevent those-in-need from obtaining services. In recent years, hospital emergency rooms, child welfare systems, jails, nursing homes and homeless shelters have become the alternatives to the community mental health system.

To address this issue, mental health systems must facilitate access to care by better coordination and linkages with these other systems. Appropriate access standards also need to be developed, so that those who do find themselves in hospital emergency rooms or in police custody can be diverted to the appropriate type of mental health care in a reasonable timeframe. Those being discharged from crisis or inpatient settings also need appropriate outpatient follow-up within a reasonable time to guard against relapse. The development of reasonable access standards will help to identify gaps in the service system and pinpoint where new resources may be needed to ensure adequate entry into the mental health system.

4. Service Delivery and Financing Structure

Planning the source and methods for service financing and delivery should follow as the target population, system goals and mental health services are defined. Too often, the opposite is true; the funding stream or the organization of services dictates what will be provided and to whom.

Although a substantial amount of money is spent in public mental health systems, additional resources and/or a better system for allocating them is almost always needed. Key to this is ensuring that the current available resources are spent wisely and allocated based on need, optimal performance and desired outcomes. The tendency has been to add new programs and services without defining how the current set of services can be restructured or altered to provide better or more appropriate care.

The public mental health system is not immune to state and local politics. Every major professional group and institution will see the planning process as either an opportunity or a threat. The planning process must determine the degree of change desired in the way business is traditionally done, and whether the political will exists to make such to changes.

V. PLANNING METHODOLOGIES

A. Relevant Research and Planning Literature

On the topic of developing mental health services capacity, the relevant literature covers two main subjects: (1) predicting need for mental health services; and (2) forecasting the need for acute care and inpatient beds.

1. Demand for Mental Health Services

While predictable estimates of the prevalence of mental illness are readily available, translating those estimates into measures of service level need is less precise. According to various national studies, about five (5%) to seven percent (7%) of adults have a serious mental illness in any year; about five (5%) to nine percent (9%) of children will have a serious emotional disturbance.[40] However, experts caution against using a single national rate for service planning

[40] Kessler, R.C., Berglund, P.A., Bruce, M.L., Koch, J.R., Laska, E. M, Leaf, P.J. et al. (2001). The prevalence and correlates of untreated serious mental illness. *Health Services Research*, 36, 987-1007.

and point out that other factors may need to be considered (e.g., population in poverty, rate of uninsurance and under-insurance, provider capacity, etc.).[41] Typically, predictions of the need for public sector capacity to deliver behavioral health services rely heavily on poverty rates, using this as an indicator of the population reliant on publicly funded treatment. Special factors that are often considered include the rate of homelessness, since this population has been shown to have a greater need for behavioral health services than the general population. According to the National Resource Center on Homelessness and Mental Illness[42] sixty-six percent (66%) of homeless persons report having either substance use and/or mental health problems. Thirty-eight percent (38%) report alcohol use problems; twenty six percent (26%) report problems with other drugs; and thirty nine percent (39%) report some form of mental health problem. Twenty (20%) to twenty five percent (25%) meet criteria for serious mental illness (compared to about five percent [5%] of the general population).[43] For both adults and adolescents, the prevalence of co-occurring psychiatric and addictive disorders must be addressed in the service planning process. About fifteen percent (15%) of all adults who have a mental illness also have a substance abuse disorders.[44] Conversely, between forty one (41%) and sixty five percent (65%) of individuals with a lifetime history of a substance abuse disorder also have a lifetime history of mental illness.[45] Research has shown that individuals with co-occurring disorders have a higher likelihood of relapse and higher rates of hospitalization.[46] Many public jurisdictions are now finding that a high proportion of acute inpatient psychiatric admissions are due to untreated or inadequately treated substance abuse problems.

In addition to need, the supply of health care services significantly influences demand for services. In fact, some researchers discourage the use of "rates under treatment" (the percent of those with a mental disorder who receive treatment), saying that it represents "effective demand" more than "need".[47] Commercial insurance practices can drive the need for public sector services when benefit packages are limited and use of inpatient treatment is restricted. Inadequate coverage for community-based alternatives can increase demand for inpatient treatment, either in increased admissions or increased length of stay. Consumer and family preference are also drivers of service utilization and these preferences must be considered with evidence-based knowledge and clinical judgment in planning services and supports.

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[41] Technical Assistance Collaborative, Incorporated and Health Systems Research, Incorporated, *Behavioral Health Needs and Gaps in New Mexico,* July, 2002.

[42] Funded by the Substance Abuse and Mental Health Services Administration, Center for Mental Health Services. Available from the World Wide Web: http://www.nrchmi.com

[43] Op cit.

[44] Kessler, R.C., Berglund, P.A., Zhao, S., Leaf, P.J., Kouzis, A.C., Bruce, M.L. Friedman, R.M., Grossiers, R.C., Kennedy, C., Narrow, W.E., Kuehnel, T.G., Laska, E.M., Manderscheid, R.W., Rosenheck, R.A., Santoni, T.W., & Schneier, M., (1996). The 12-month prevalence and correlates of serious mental illness.

[45] Satcher, D., 1999.

[46] Drake, R.E., Essock, S.M., Shaner, A., Carey, K.B., Minkoff, K., Kola, L., Lynde, D., Osher, F.C., Clark, R. E., & Richards, L. (2001). Implementing dual diagnosis services for clients with severe mental illness. *Psychiatric Services*, 52, 469-476.

[47] Elpers & Crowell, 1982.

2. Bed Need Methodologies

Most of the existing literature concerning the evaluation of need for inpatient mental health services dates from the 1970s and 1980s when mental health policy makers and researchers were required to address mental health services in State and/or regional health plans mandated and partially funded through federal legislation.

There is wide variability in standards developed in this era. In the late 1970s, the National Institute on Mental Health (NIMH) conducted a comprehensive survey of acute bed need projections and found that bed to population ratio used as need standards or benchmarks by states ranged from twenty (20) to three hundred seventy-five (375) beds per 100,000 population.[48] Most experts surveyed by NIMH thought that from fifty (50) to one hundred (100) acute care beds would be needed per 100,000 population.

One national study of state health planning agencies found that eleven states utilize statewide proactive planning for psychiatric beds.[49] The study found that these states typically have formulas based on population and target occupancy rates. Other factors included in formulas included geographic location, travel time to other institutions, estimated prevalence of mental illness, estimated need for inpatient psychiatric services among the population with mental illness. Commission staff conducted a limited review of states' methods of planning for psychiatric beds. States in geographic proximity to Maryland (Virginia, West Virginia, Delaware, North Carolina, and the District of Columbia) were included in this review. The results of this review are summarized in Table 4 below. Delaware and the District of Columbia regulate the number of acute care beds, but do not have a separate methodology specifically for psychiatric beds, and therefore are not included in Table 4.

Three of the bed projection methodologies described in Table 4 are based on the current use of psychiatric beds (Virginia, North Carolina, and Maryland). The advantages of this approach, also referred to as a "current use model," are that it is easy to use and apply.[50] If rates of utilization are relatively stable, then the model will provide an accurate forecast of future use.[51] The disadvantage of this model is that it does not account for trends in health care that may reduce the use of inpatient beds, such as changes in treatment options. One study of the use of this type of model in Hawaii found that the projections from the model overestimated hospital days by 11.7% in year 2000.[52] As an alternative to this model, the authors of this study developed a model based on trend analysis ("trend analysis model".)

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[48] Hagedorn, H., *A Manual on State Mental Health Planning*, Rockville, MD: National Institute of Mental Health, 1977.

[49] Bryan, T. and Pathak, D. "An Evaluation of Methodologies Used in Developing a Statewide Proactive Acute Care Bed Plan: A National Survey." (2003). http://gateway.nlm.nih.gov/MeetingAbstracts/102275622.html

[50] Hawaii Health Information Corporation. "Maui Bed Needs Study, 2005-2025." http://hawaii.gov/health/shpda/shmauibe.pdf

[51] Ibid.

[52] Ibid.

Table 4: Comparison of Acute Psychiatric Bed Projection Methodologies Used in Select States

Category	Virginia[1]	West Virginia[2]	North Carolina[3]	Maryland[4]
Population Groups Used to Estimate Need	Current users of inpatient care. No separate age groups.	Ages 0-17 and 18+	Current users of inpatient care, adjusted downward 20% for children due to utilization trend, but no adjustment for adults.	Children (0-12) Adolescents (13-17) Adults (18+)
Occupancy Level Required Before Approval of Additional Beds	85% to 90% for the prior year(depends on the number of beds at existing facilities)	Not included	Not included.	Between 80% and 90% for two consecutive years (level depends on number of beds at an existing facility)
Target Occupancy Level	Not included	Not included	75%	85%
Estimated Prevalence of Mental Illness in the Population	Not included	12% for ages 0-17 and 22.1% for ages 18+	Not included	16.5% for adults (18+) and 11.6% for children
Estimated Use of Acute Inpatient Services	It is assumed that three years into the future, the need will be 90% of the current utilization pattern.	.12% for ages 0-18 and not defined for 18+	It is assumed that two years into the future, the need should reflect 75% occupancy, based on current utilization pattern.	0.3% for adults and 1.85% for children
Travel Time Standard	Within 60 minutes for 95% of the population	Not included	Not included	For adults: 30 minute drive for 90% of the population. For children: the same, except must be within 45 minutes.

[1] Source: http://www.vdh.state.va.us/OLC/Laws/documents/COPN/SMFP%20composite.pdf
[2] Sources: http://www.hcawv.org/CertOfNeed/Support/Behavioral_Health.pdf and http://www.hcawv.org/CertOfNeed/Support/AcuteBedsapp.pdf
[3] Source: http://facility-services.state.nc.us/plan2007/plan2007.pdf
[4] Source: COMAR 10.24.07

The primary difference between the trend analysis model and the current use model is that the trend analysis model includes calculating a regression formula for age groups, sex, and other factors. The linear regression formula is then applied to future populations. The advantage of the trend analysis model is that it is more likely to reflect changes in treatment approaches. However, the disadvantage of this model is that it also assumes that trends will continue at steady rates in the future; it cannot predict sudden changes. In the context of examining the need for acute inpatient psychiatric services in Maryland, such a sudden change might be the availability of crisis intervention services or intense supportive services. Therefore, it is important to determine how the availability of these services may impact the need for inpatient psychiatric services.

Among the states listed in Table 4, West Virginia alone includes projections of need for supportive psychiatric services that in some cases may serve to reduce the need for inpatient psychiatric care. For example, for children, it is assumed that among the 12% with a mental health disorder, about 5% of these will need residential treatment; 5% will need crisis respite services; and 8% will need day treatment. Similarly, for the adult population, West Virginia includes projections for certain services needed by some adults with mental illness (inpatient care is not included). The aforementioned projected needs are part of CON review in West Virginia, rather than an explicit plan for creating an optimal system of care. Therefore, further research regarding the methods used to develop these standards and the impact of these standards on psychiatric care in West Virginia, may be helpful in determining whether such an approach would be helpful in evaluating the need for inpatient psychiatric care in Maryland.

Although Virginia does not include in its evaluation of CON projects estimates for outpatient psychiatric services, it has attempted to determine how the need for inpatient care among current and former patients in its State psychiatric institutions may be reduced through examining the change in days of inpatient psychiatric care needed by persons both before and after receiving assertive community treatment services.[53] To the extent that Maryland is capable of tracking patients' use of services in the public health system prior to and following interventions identified as best practices for reducing inpatient acute care, it may be possible to quantify the number of inpatient bed days that could be reduced through increasing the availability of such services.

Virginia also has attempted to better determine the need for acute inpatient psychiatric care by examining the number of psychiatric patients in state institutions who are delayed in being discharged due to a lack of community services.[54] This approach is also potentially useful for Maryland in estimating the number of inpatient bed days that could be eliminated through the provision of community services. However, in many cases, these services may not be regarded as crisis services or services that divert the need for inpatient care, and therefore could be considered outside the scope of the Task Force.

Another possible approach to examining the need for inpatient psychiatric care and crisis services is to gather expert opinions and opinions of those who provide services to the target population. This approach was reportedly used by both South Carolina and the District of Columbia, during

[53] Eileen Fleck, staff for JLARC report,"Availability and Cost of Psychiatric Services in Virginia." Available at http://jlarc.state.va.us/Reports/Rpt365.pdf

[54] Eileen Fleck, staff for JLARC report,"Availability and Cost of Psychiatric Services in Virginia." Available at http://jlarc.state.va.us/Reports/Rpt365.pdf

the 1980's to project the services needed for children.[55] Based on the sources listed in West Virginia's CON standards, it may have also relied on this method, or some of the conclusions drawn by these states, in creating its CON standards for psychiatric services for children.[56]

In addition to the information presented here regarding other states' planning for future inpatient psychiatric beds and community services, it will be helpful to review studies that have specifically focused on the avoidance of inpatient psychiatric care through the provision of other services. Additional information of this topic will be made available in a future White Paper on best practices.

B. Planning Strategies

Common planning strategies include:

1. Developing a Plan for the Optimal System—this plan would identify the services and funding needed to address the needs of the target population(s) regardless of the availability of funding. This would be considered the "ideal" scenario—ensuring that all individuals in the target population would be offered and use the right services at the right time. In addition it would assume that the provider and the community had the capacity to develop and provide these services effectively. A comparison of current spending by service and the desired array would result in a "gaps analysis" that would guide future resource allocation.

2. Developing a Plan Based on Current Resources—this plan would assume that the current resources for the public mental health system would not change significantly over the next several years. This would require a plan that considers the constraints of current resources by prioritizing subpopulations within the target population or specific needs of the target population. This may require review of each service currently provided and a determination of whether it should remain in the plan, be eliminated or whether it requires further evaluation. In addition, there would need to be a determination regarding if and what volume of new services can be supported with no new resources.

   Using the current resource level as the base, there would need to be a review of the distribution of resources across services in order to determine whether the system was balanced across the array. Is the ratio of inpatient to community spending correct? Does the ratio of crisis to non-crisis spending support prevention and early intervention? Are funds balanced across residential and non-residential care? Since the funding level is presumed to be constant, the mix of services becomes the critical variable. This scenario also emphasizes the importance of moving away from services that have not proven effective and into those services that have been shown to be effective or promising.

3. Developing a Plan Based on Current Resources Plus Modest Growth—this planning methodology would be similar to the previous one but would take into account a reasonable increase in a the allocation for mental health services. This strategy would also require the establishment of priorities for purchasing existing and new services. Another strategy that can be used under this set of assumptions is the development of a plan based on a

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55 http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/22/d8/46.pdf

56 http://www.hcawv.org/CertOfNeed/Support/Behavioral_Health.pdf

benchmark for addressing need or developing service capacity. For instance, the plan may have as its goal to serve 5% or 10% more of the target population currently needing but not receiving services. The plan may also establish goals for developing capacity based on access and/or areas that have shortages of providers or practitioners.

4. Developing a Plan Benchmarked against 'Reasonably-Resourced State'—this plan would identify one or more states that have made a significant investment in their public mental health system and compare and contrast services and resources to those existing in the planning jurisdiction. This would include selecting jurisdictions with sizable investment (total expenditures) and well performing investments (positive outcomes for the target population(s). Once a comparison jurisdiction is selected, there are several system elements that can be used for the comparison. One element could be the spending for mental health services (including prevention and early intervention) per capita or per consumer. Another could be the proportion of resources across services, comparing such items as the proportion of expenditures made for acute or crisis services, or the percentage of expenditures dedicated to evidenced based/best practices.

5. Developing a Multi-agency Resource Allocation Plan—this plan would review the purchasing practices across agencies that serve individuals in the target populations or subpopulations. The purpose of this review would be to identify the duplication and gaps in resources for the target population. The agencies would develop a collective purchasing plan that would be more efficient in distributing resources to meet the needs of the target population. While this kind of plan is most often developed across Medicaid, child welfare and juvenile justice agencies, inclusion of primary health care is becoming more important as the significant co-occurring physical and psychiatric needs of persons with serious mental illness are better known.

This is a crucial step in the planning process. The forecast of the available resources for the planning effort will most likely require a second review of the target population(s) and the state's purchasing priorities for its limited resources.

In summary, this Section describes various scenarios that public mental health systems have used to define their planning parameters. The sharpest contrast occurs between Scenario One that plans for an optimal system and Scenario Two that bases the plan on current resources. In Option One, the plan would use selected factors discussed earlier to create estimates of the number of general and specific populations in need. A service array would be described and clinically optimal utilization patterns for each service would be developed. Crossing the population estimates with the services volume would result in the statewide projections of service units required for an ideal system. Unless the population estimates were very conservative, this methodology would result in a required funding base much higher than most, if not all, public mental health systems.

In Option Two the determination is made that the prudent planning approach works with the current resource base, without projected growth. Much like an individual investor's 'asset allocation plan', this methodology attempts to maximize the use of known funds. After creating an inventory of current funds by service, the jurisdiction would use both literature-based and consensus-driven processes to determine the desired mix of services across inpatient and outpatient, residential and community, and acute vs. non-acute care. Applying these percentages to the resource base could result in a new funding pattern against which current spending is evaluated. When imbalances are discovered, spending and contracting adjustments are made.

These two contrasting scenarios differ on a few major dimensions. Option One is usually politically acceptable to advocates since it projects growth in mental health funding, usually

across all components of the service system. No provider sector appears to be a 'loser' in this scenario. However, plans developed with this methodology are rarely implemented since they require significant additional public funds, typically out of the reach of the mental health system.

Option Two is far more pragmatic but far less politically acceptable. When State Mental Health Authorities have conducted this kind of analysis, they have found their systems significantly out of balance, based on some of the planning limitations. In these states, public funding had grown incrementally, in many cases based on special projects, and rarely in line with any formal system's plan. Re-distribution of funding must occur on a multi-year basis, with careful attention to issues of access and continuity as money is moved from one service to another. A public purchaser could also use both Options simultaneously in order to make decisions about the intersection of under-funding and re-distribution in a way that yields maximum results.

VI. SUMMARY AND TASK FORCE DISCUSSION

Based on the relevant research, planning literature, and guidance from the Task Force, Maryland's *Plan to Guide the Future Mental Health Service Continuum* should articulate the vision for both inpatient and community-based acute and emergency crisis services. The development of the plan will be guided by the JCR's recommendation that MHCC develop projections of future bed needs for acute inpatient psychiatric treatment and the community-based services that are needed to prevent or divert consumers from inpatient treatment.

Rather than select a single economic assumption as the basis for planning, it may be preferable to recommend a phased approach for the *Plan.* Given Maryland's per capita spending on mental health services, it would seem prudent to use either the current resource base or the "base with modest growth" scenario as the economic assumption. This could serve as a short-term planning goal, followed by intermediate and long-term goals that focus on the "well-resourced" state or the optimal mental health system scenarios. This approach should permit analysis of what could be accomplished over time with increasing resources. The preferred approach would be to set up a sequence of phased steps to achieve the best possible mental health system with a progressive and creative statewide inpatient and community-based acute and emergency crisis response system, one that will also pass an economic feasibility test.

Similarly, there are contrasting options regarding an approach to defining services for which need should be projected, target population age groups, geographic regions. One methodology would only project the number of acute inpatient treatment beds required; the second would develop projections for *acute care services* that would include both inpatient and community-based capacity. While the first option is, in some ways, more straightforward, it will only address part of the mental health equation. Unless community-based crisis, emergency and urgent care availability grows commensurate with acute inpatient capacity, demand for inpatient treatment will be higher than necessary based on clinical criteria. The White Paper also outlines potential options for defining target population age groups that range from two cohorts (children/adolescents and adults) to more refined groups that would target four cohorts including, children, transitional adolescent/young adult, adult, and geriatric populations. In planning for mental health service capacity, there is also a need to establish planning regions that are used to predict utilization volume and to distribute resources.

Task Force Discussion Questions

Task Force input is sought on the following questions to guide the development of the Plan:

- What principles should guide this planning effort?
- Who should be the target populations? How should the target populations be defined?
- What geographic regions should be used for planning?
- For which specific inpatient and community-based acute and emergency crisis services should need projections be developed? What specific services should be defined as crisis services that potentially reduce the need for inpatient care? What information needs to be collected to inventory and understand the capacity of these services?
- Are there barriers to care that it is critical to know more about in order to plan for inpatient psychiatric bed needs?
- What economic assumptions should guide this planning effort?
- What other factors need to be considered in establishing a framework for planning to meet the needs for inpatient mental health services?